

16/731, 147

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	("6034029").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/04/28 17:26
L2	1	("5354915").PN.	US-PGPUB; USPAT; USOCR	OR	OFF	2005/04/28 17:27
L3	4859	Zirconium adj dioxide	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/28 17:27
L4	4198	monoclinic	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/28 17:27
L5	7045	tetragonal	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/28 17:27
L6	155738	cubic	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/28 17:28
L7	161998	I4 or I5 or I6	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/28 17:28
L8	710	I3 and I7	US-PGPUB; USPAT; USOCR	OR	ON	2005/04/28 17:28

10/731,167

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data from INPADOC
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based on application date in CA/CAPLUS and USPATFULL/USPAT2
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applications.
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U.S. patent records in CA/CAPLUS

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FILE 'CAPLUS' ENTERED AT 17:18:16 ON 28 APR 2005

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FILE COVERS 1907 - 28 Apr 2005 VOL 142 ISS 18

FILE LAST UPDATED: 27 Apr 2005 (20050427/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s "zirconium dioxide"

188973 "ZIRCONIUM"

21 "ZIRCONIUMS"

188976 "ZIRCONIUM"

("ZIRCONIUM" OR "ZIRCONIUMS")

430276 "DIOXIDE"

6427 "DIOXIDES"

431897 "DIOXIDE"

("DIOXIDE" OR "DIOXIDES")

L1 8067 "ZIRCONIUM DIOXIDE"

("ZIRCONIUM" (W) "DIOXIDE")

=> s monoclinic

83888 MONOCLINIC

4 MONOCLINICS

83891 MONOCLINIC

(MONOCLINIC OR MONOCLINICS)

128 MONOCLIN

L2 84011 MONOCLINIC

(MONOCLINIC OR MONOCLIN)

=> s tetragonal

49831 TETRAGONAL

7 TETRAGONALS

L3 49834 TETRAGONAL

(TETRAGONAL OR TETRAGONALS)

=> s cubic

91524 CUBIC
 22 CUBICS
 L4 91531 CUBIC
 (CUBIC OR CUBICS)

 => s 12 or 13 or 14
 L5 207262 L2 OR L3 OR L4

 => s 11 and 15
 L6 1135 L1 AND L5

 => s catalyst
 686360 CATALYST
 690197 CATALYSTS
 L7 879924 CATALYST
 (CATALYST OR CATALYSTS)

 => s 16 and 17
 L8 41 L6 AND L7

 => s hydrogen?
 L9 1116688 HYDROGEN?

 => s 18 and 19
 L10 8 L8 AND L9

 => d 110 1-8 abs ibib

L10 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB Gallium-promoted sulfated zirconia (GSZ) catalysts were prepared by impregnation of zirconium hydroxide with aqueous Ga₂(SO₄)₃ followed by calcination. Isomerization of n-hexane was studied over GSZ at 150°, 2.0 MP, WHSV 2 and H₂/hexane (molar) ratio of 5. In comparison to sulfated zirconia (SZ), the conversion of n-hexane over Gallium-promoted sulfated zirconia (GSZ) was greatly improved and it remained stable at 85%. In particular, almost all the products were isomers of hexane and the selectivity of 2,2-DMB reached 20%. The results of characterization indicated that the addition of gallium onto SZ catalyst showed little difference in acid strength between SZ and GSZ catalysts while the redox properties of the SZ catalyst changed with addition of gallium. The transformation of SZ crystalline from metastable tetragonal phase, the more active phase, to monoclinic phase was retarded with the addition of gallium. Also, the simultaneous promotion of Pt and Ga brings the production distribution very close to the equilibrium one.

ACCESSION NUMBER: 2003:741614 CAPLUS
 DOCUMENT NUMBER: 140:61930
 TITLE: Hydroisomerization of n-hexane over gallium-promoted sulfated zirconia
 AUTHOR(S): Cao, Chong-jiang; Han, Song; Chen, Chang-Lin; Xu, Nan-Ping; Mou, Chun-Yuan
 CORPORATE SOURCE: College of Chemistry and Chemical Engineering, Nanjing University of Technology, Nanjing, 210009, Peop. Rep. China
 SOURCE: Catalysis Communications (2003), 4(10), 511-515
 CODEN: CCAOAC; ISSN: 1566-7367
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB Zirconia-loaded alumina samples were prepared and used as supports for platinum and tin metallic phases. X-ray diffraction patterns of 9.0 and 13.0 wt % ZrO₂-loaded alumina samples showed the characteristic lines of the tetragonal ZrO₂ phase. For the base alumina and these two supports, the nitrogen adsorption-desorption isotherms displayed type IV isotherms and a type H1 hysteresis loop characteristic of mesoporous materials, with BET areas and pore vols. decreasing with increasing ZrO₂ content. Platinum and tin were incorporated into these substrates and then characterized by temperature-programmed reduction, XPS, and their performance in regard to n-butane dehydrogenation. The TPR profiles of the bimetallic systems revealed that platinum is readily reduced whereas tin reduction depends on the support, the metal loading, the preparation method, and the pretreatment conditions. Upon hydrogenation up to 773 K, tin undergoes partial reduction to the metal and the SnO/Sn₂ ratio increases with increasing ZrO₂ content. All these systems were highly selective toward olefins (i.e., n-butenes), with a minor contribution of the isomerization and cracking reactions. The catalysts became deactivated by coke deposition, although this deactivation was less marked in the Pt-Sn deposited on the ZrO₂-Al₂O₃ substrates.

ACCESSION NUMBER: 2000:839508 CAPLUS
 DOCUMENT NUMBER: 134:133906
 TITLE: Alumina- and Zirconia-Alumina-Loaded Tin-Platinum. Surface Features and Performance for Butane Dehydrogenation
 AUTHOR(S): Larese, C.; Campos-Martin, J. M.; Fierro, J. L. G.
 CORPORATE SOURCE: Inst. Catalis Petroleoquímica, CSIC, Madrid, 28049, Spain
 SOURCE: Langmuir (2000), 16(26), 10294-10300
 CODEN: LANGD5; ISSN: 0743-7463
 PUBLISHER: American Chemical Society
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 46 THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB The activity and durability of the catalysts prepared by the oxidation-reduction treatment of amorphous Co-15 atomic% Zr, Ni-40 atomic% Zr, and Ni-30 atomic% Zr-10 atomic% Sm alloys were investigated for simultaneous methanation of carbon monoxide and carbon dioxide. The Ni-30Zr-10Sm catalyst showed the highest activity among the catalysts examined: the activity of the Co-15Zr catalyst is lower than those of the nickel-based catalysts, in agreement with the activity for the sole methanation of carbon dioxide. On all the catalysts, carbon monoxide reacts preferentially with hydrogen and is completely converted into methane at 2523 K. The remaining hydrogen further reacts with carbon dioxide to form methane. The methanation rate in the H₂-CO-CO₂ mixed gas was higher than that in H₂-CO mixed gas without CO₂. This is probably related to the prevention of the formation of surface carbon by disproportionation of carbon monoxide due to the presence of carbon dioxide. The activity of the Ni-40Zr catalyst at 573 K gradually decreased with reaction time. Tetragonal ZrO₂, the presence of which is responsible for the high activity, is transformed to thermodynamically more stable monoclinic ZrO₂ during the reaction. In contrast to the Ni-40Zr catalyst, the Ni-30Zr-10Sm catalyst sustains the initial high activity, and no structural changes were observed during the durability test regardless of the presence of a small amount of H₂S.

ACCESSION NUMBER: 1998:571532 CAPLUS
 DOCUMENT NUMBER: 129:262645
 TITLE: Co-methanation of carbon monoxide and carbon dioxide on supported nickel and cobalt catalysts prepared from amorphous alloys
 AUTHOR(S): Habazaki, Hiroki; Yamasaki, Michiaki; Zhang, Bo-Ping; Kawashima, Asahi; Kohn, Shunpei; Takai, Takuro; Hashimoto, Koji
 CORPORATE SOURCE: Institute for Materials Research, Tohoku University, Sendai, 980-8577, Japan
 SOURCE: Applied Catalysis, A: General (1998), 172(1), 131-140
 CODEN: ACASEA; ISSN: 0926-860X
 PUBLISHER: Elsevier Science B.V.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L10 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB ZrO₂, which is 280 weight% monoclinic and has a surface area of 2100 m²/g, is produced by reaction of aqueous Zr salt solns. with NH₃, aging to convert a tetragonal phase to a monoclinic phase at 0-300°, drying, and calcining at 200-600°. The product is suitable as a catalyst or catalyst support, especially for hydrogenation, dehydrogenation, Fischer-Tropsch syntheses, desulfurization, isomerization, polymerization, and steam reforming.

ACCESSION NUMBER: 1998:410662 CAPLUS
 DOCUMENT NUMBER: 129:97316
 TITLE: Monoclinic zirconium dioxide with high surface area
 INVENTOR(S): Wulff-Doring, Joachim; Stichert, Wolfram; Schuth, Ferdi
 PATENT ASSIGNEE(S): BASF A.-G., Germany
 SOURCE: Eur. Pat. Appl., 9 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 849224	A1	19980624	EP 1997-122267	19971217
EP 849224	B1	20010613		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
DE 19653629	A1	19980625	DE 1996-19653629	19961220
US 6034029	A	20000307	US 1997-992569	19971217
ES 2159804	T3	20011016	ES 1997-122267	19971217
CN 1195037	A	19981007	CN 1997-107288	19971219
JP 10330116	A2	19981215	JP 1997-352888	19971222
PRIORITY APPL. INFO.: DE 1996-19653629 A 19961220				
REFERENCE COUNT:	6	THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT		

L10 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB Pure monoclinic and tetragonal zirconium dioxides were successfully prepared at pH values of .apprx.9.5 and ≥ 11.5 , resp. Their crystal structures were characterized by x-ray diffraction. Calcination temperature has a great influence upon crystals. When calcination temperature varied from 350° to 500°, amorphous ZrO₂ converted to crystal phase and the amount of monoclinic phase increased, while that of tetragonal phase decreased. Different crystal phases have different catalytic performance. Monoclinic ZrO₂ catalyst has a higher selectivity for isobutene in F-T synthesis, while the amount of isobutene was reduced over tetragonal ZrO₂. Catalytic properties of ZrO₂ prepared by using supercrit. fluid drying method is better than those by other methods. Reaction mechanisms are discussed.

ACCESSION NUMBER: 1997:624568 CAPLUS
 DOCUMENT NUMBER: 127:263082
 TITLE: Isobutene formation from synthesis gas over zirconium dioxide
 AUTHOR(S): Wang, Guojun; Su, Guiqin; Yin, Yuanqi
 CORPORATE SOURCE: Chinese Academy Sciences, Lanzhou Inst. Chemical Physics, Lanzhou, 730000, Peop. Rep. China
 SOURCE: Fenzi Cuihua (1997), 11(4), 278-282
 CODEN: FECUEN; ISSN: 1001-3555
 PUBLISHER: Zhongguo Kexueyuan Lanzhou Huxue Wuli Yanjiuso
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

L10 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB Monoclinic, square and cubic systems of zirconium dioxide crystals were prepared, and their catalytic performance for producing lower carbon olefins from syngas was tested. A correlation of the crystal systems of ZrO₂ with their catalytic performance was revealed: the monoclinic system crystals favored the formation of iso-butane, and the cubic and/or square system crystals contributed to the formation of ethylene almost without the formation of C₄ olefins.

ACCESSION NUMBER: 1995:809446 CAPLUS
 DOCUMENT NUMBER: 123:209786
 TITLE: Preparation of three systems of ZrO₂ crystals, and their catalytic performance
 AUTHOR(S): Li, Wen; Zhang, Wenzhong; Yin, Yuanqi
 CORPORATE SOURCE: Lanzhou Res. Inst. Chem. Physics, Academia Sinica, Lanzhou, 730001, Peop. Rep. China
 SOURCE: Tianranqi Huagong (1995), 20(2), 28-30
 CODEN: THTKEP; ISSN: 1001-9219
 PUBLISHER: Tianranqi Huagong Bianjibuo
 DOCUMENT TYPE: Journal
 LANGUAGE: Chinese

L10 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB A catalyst composition comprises predominantly tetragonal zirconium oxide on a neutral support. A process for converting α , β -olefinically unsatd. aldehydic or ketonic comds. into the corresponding allylic alc. derivs. using an alc. as a hydrogen donor in the presence of the catalyst on a neutral support with the catalyst selected from HfO₂, V₂O₅, Nb₂O₅, TiO₂, Ta₂O₅ or their mixts. is also claimed. Acrolein was converted in 94-99% to allyl alc. with efficiencies of 84-95% using ZrO₂ on silica. The catalyst can be regenerated by heating in an O-containing atmospheric

ACCESSION NUMBER: 1995:426558 CAPLUS
 DOCUMENT NUMBER: 122:164051
 TITLE: Zirconium dioxide catalyst and process for the reduction of carbonyl compounds to alcohols
 INVENTOR(S): Reichle, Walter Thomas
 PATENT ASSIGNEE(S): Union Carbide Chemicals and plastics Technology Corporation, USA
 SOURCE: Eur. Pat. Appl., 11 pp.
 CODEN: EPXXDW
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 607591	A2	19940727	EP 1993-120522	19931220
EP 607591	A3	19941102		
EP 607591	B1	19990929		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 5354915	A	19941011	US 1992-994630	19921221
JP 06226093	A2	19940816	JP 1993-344464	19931220
JP 2864089	B2	19990303		
AT 185091	E	19991015	AT 1993-120522	19931220
ES 2136110	T3	19991116	ES 1993-120522	19931220
PRIORITY APPLN. INFO.:			US 1992-994630	A 19921221
OTHER SOURCE(S):		MARPAT 122:164051		

L10 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
 AB Metal-support interactions are proposed to explain a much lower chemisorption of H on Rh/ZrO₂ compared to Rh/ γ -Al₂O₃ catalysts. The decrease in H chemisorption, while retaining the ability to chemisorb O, is a characteristic of strong metal-support interactions. Well dispersed samples of Rh₂O₃ on ZrO₂ were prepared and the structural properties of the catalysts were related to their stability in reducing atmospheres. Changes in the structure of the phases formed and the temps. at which reduction to Rh metal occurred were then related to the relative strengths of the catalyst-support interactions. A comparison of the stability towards reduction of the bulk and dispersed Rh₂O₃ demonstrates the influence of an interaction between the dispersed metal oxide and the support.

ACCESSION NUMBER: 1987:39138 CAPLUS
 DOCUMENT NUMBER: 106:39138
 TITLE: Preparation and characterization of dispersed rhodium oxide on tetragonal zirconium oxide
 AUTHOR(S): Zhang, Y. C.; Dwight, K.; Wold, Aaron
 CORPORATE SOURCE: Dep. Chem., Brown Univ., Providence, RI, USA
 SOURCE: Report (1986), TR-39; Order No. AD-A166345/9/GAR, 8 pp. Avail.: NTIS
 From: Gov. Rep. Announce. Index (U. S.) 1986, 86(15), Abstr. No. 633,336
 DOCUMENT TYPE: Report
 LANGUAGE: English

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COST IN U.S. DOLLARS

SINCE FILE

TOTAL

ENTRY

SESSION

FULL ESTIMATED COST

36.23

36.44

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)

SINCE FILE

TOTAL

ENTRY

SESSION

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